YEGUA CREEK BRIDGE
(Tommelson Creek Bridge)
Texas Historic Bridges Recording Project
Spanning Tommelson Creek at Cedar Hill Road (County Route 241)
(Moved from Yegua Creek at Brenham-Caldwell Road
[State Route 36], Sommerville vicinity, Burleson County)
(Moved to Higgins Creek in Henderson Park,
Brenham, Washington County)
Brenham Vicinity
Washington County
Texas

HAER No. TX-53



WRITTEN HISTORICAL AND DESCRIPTIVE DATA

HISTORIC AMERICAN ENGINEERING RECORD
National Park Service
Department of the Interior
1849 C St., NW
Washington, DC 20240

HISTORIC AMERICAN ENGINEERING RECORD

# YEGUA CREEK BRIDGE
(Tommelson Creek Bridge)

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| Location: | Spanning Tommelson Creek at Cedar Hill Road (County Route 241), Brenham vicinity, Washington County, Texas. (Moved from Yegua Creek at Brenham-Caldwell Road [State Route 36], Somerville vicinity, Burleson County, Texas.) (Moved to Higgins Creek in Henderson Park, Brenham, Washington County, Texas.) UTM: 14/748130/3348420 USGS: Brenham, Texas quadrangle (1989). |
| Date of Construction: | 1890-1891. |
| Designer: | Missouri Valley Bridge and Iron Works, Leavenworth, Kansas. |
| Builder: | Missouri Valley Bridge and Iron Works, Leavenworth, Kansas. |
| Present Owner: | City of Brenham. |
| Present Use: | Pedestrian bridge. |
| Significance: | The Yegua Creek Bridge is a rare surviving example of the work of Missouri Valley Bridge and Iron Works in Texas, and the last remaining Pratt through truss in Washington County. |
| Historian: | Robert W. Jackson, August 1997. |
| Project Information: | This document was prepared as a part of the Texas Historic Bridges Recording Project performed during the summer of 1996 by the Historic American Engineering Record (HAER). The project was sponsored by the Texas Department of Transportation (TxDOT). |

**Introduction**

The Yegua Creek Bridge (also known as the Tommelson Creek Bridge), a 78'-9"-long, pin-connected Pratt through truss erected by the Missouri Valley Bridge and Iron Works during the winter of 1890-1891, served the residents of Burleson and Washington counties for more than one hundred years as a roadway bridge at two different locations. It was relocated in 1994 for use as a pedestrian bridge across Higgins Creek in Henderson Park, Brenham, Texas. It survives in its present location as both a extant example of the work of a nationally prominent bridge-building firm, and as an increasingly rare example of the Pratt through metal truss, a bridge type once ubiquitous throughout the State of Texas. The history of this bridge may be traced back to an important period in the growth of Burleson and Washington counties; a time when both the economy and the transportation infrastructure of the area was in transition.

**Yegua Creek Bridge**

Yegua Creek forms the southeastern boundary of Burleson County and the northern boundary of Washington County. In the latter part of the nineteenth century, a road existed between Caldwell, the Burleson County seat, and Brenham, the Washington County seat. The road crossed Yegua Creek at a point known as Lang Bridge Crossing, or simply, Lang Crossing. In 1880, the Gulf, Colorado, and Santa Fe (GC&SF) Railway extended the Brenham-Cameron branch of its main line from Brenham to Caldwell on a line roughly parallel to the Brenham-Caldwell road, and this extension led to the establishment of Somerville a few years thereafter as a station on this line. In 1883, the year that the first survey for the town was filed for record, a twenty-eight-mile-long subsidiary line was established between Somerville and Navasota, thus providing the GC&SF with access to the commercially exploitable "piney woods" of East Texas. Located approximately seventeen miles southeast of Caldwell, thirteen miles northwest of Brenham, and one and one-half miles north of Yegua Creek, Somerville became the home of the only large industrial installation in Burleson County in the mid-1890s when a group of Chicago capitalists succeeded in establishing the Texas Tie and Lumber Preserving Company at a site on the east side of the main railroad line. However, the need for improvements to the Brenham-Caldwell road, including construction of a metal truss bridge over Yegua Creek, was evident long before construction of the tie and lumber plant due to the railroad-facilitated economic growth of Brenham, Somerville, and Caldwell.[1]

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[1] Burleson County Historical Society, *Astride the Old San Antonio Road: A History of Burleson County, Texas* (Dallas, Texas: Taylor Publishing Company, 1980), pp. 38-40, 68, 69; Charles F. Schmidt, *History of Washington County* (San Antonio, Texas: Naylor Company, 1949), pp. 23, 24; Wilfred O. Dietrich, *The Blazing Story of Washington County* (Brenham, Texas: Banner Press, 1950; reprinted Wichita Falls, Texas: Nortex, 1973), pp. 1, 2; Ron Tyler, ed., *The New Handbook of Texas,* vol. 1 (Austin: Texas State Historical Association, 1996), pp.

At their regular meeting early in November, 1890, the Commissioners' Court of Burleson County, Texas, noted the following:

> Whereas a good and Substantial Bridge is greatly needed across the Yegua at, or near, what is known as the "Lang Bridge" Crossing of said Stream, on the Caldwell and Brenham Road; and whereas the Commissioner's Court of Washington County together with the citizens of Brenham have manifested a willingness and desire to contribute largely towards construction of such bridge . . . , be it ordered that the sum of Five Hundred Dollars be and the same is hereby appropriated out of the Road and Bridge Fund of this county, to be applied toward the payment of said bridge.[2]

The funds thus appropriated were to be drawn in favor of the contractor of the bridge upon completion of the structure, provided that a report be filed with the clerk of the court showing that the bridge was worth "at least One Thousand Dollars." The name attached to the Yegua Creek crossing indicates that some sort of bridge already existed at that point on the Brenham-Caldwell road. Although the specific type of bridge in use at Lang Crossing prior to erection of a metal truss bridge is unknown, it was certainly a wood bridge of limited capacity.

The Commissioner's Court of Washington County followed the action of the Burleson County Commissioners by voting on November 13 to receive bids for construction of the "iron" bridge on November 26, with "each bidder to furnish his own plans & specifications. . . ."[3] On

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ed., *The New Handbook of Texas,* vol. 1 (Austin: Texas State Historical Association, 1996), pp. 840-45; ibid., vol. 6, pp. 834-36.

[2] Burleson County, Texas, *Commissioners' Court Minutes,* vol. F (Burleson County Courthouse, Caldwell, Texas), p. 6 (11 November 1890).

[3] Washington County, Texas, *Commissioners' Court Minutes,* vol. B (Washington County Courthouse, Brenham, Texas), p. 395. Although the minutes of the Washington County Commissioners' Court, as well as accounts published in the *Brenham Banner,* indicate that an iron bridge was erected over Yegua Creek, it was not uncommon during the period when bridge-building companies were beginning to use steel instead of iron for short-span bridges, which began roughly in the 1880s, that county of officials and the general public routinely used the term "iron bridge" as a generic term for "metal bridge". Because it is extremely difficult to differentiate an iron span from a steel span without destructive testing of the metal, it is difficult to definitively determine what type of metal was used in fabrication of the subject bridge. However, the contract card maintained by the bridge company indicates that an iron bridge was erected at this site. A copy of this card, obtained from the files of the Kansas State Historical Society, is located in the Missouri Valley Bridge and Iron Works vertical file, Texas Department

November 27, the Brenham Banner reported that numerous bids for the building of this bridge were received, and that the bid of Missouri Valley Bridge and Iron Works was approved. The bridge was to be "an iron bridge and to be completed by April 1st, 1891, [and] to cost $3,200."[4]

Some confusion apparently arose soon thereafter regarding the financial contribution of the Burleson County Commissioners' Court, because on December 11, 1890, the commissioners felt the need to clarify their action of the previous month regarding their allotment of five hundred dollars towards construction of the bridge. According to minutes of the meeting held on December 11,

> In order to explain what was meant by said appropriation it is hereby ordered that said appropriation was made for the purpose of improving the road leading from Bridge into Burleson County and that said appropriation is made on condition that the private subscription mentioned in said order shall amount to a sufficient sum to put said road in good condition to accommodate the public travel.[5]

Whatever may have been the financial contribution of Burleson County, the bridge was successfully completed the following spring. Apparently, however, the bridge company didn't quite complete the bridge by April 1, as originally stipulated by the Washington County Commissioners' Court, because the *Brenham Banner* reported on April 16, 1891:

> The new iron bridge at the Lang Crossing, on the Yegua thirteen miles north of here, has just been completed by the Missouri Valley Bridge and Iron Works, under supervision of Mr. P. Sullivan. It is one of the best structures ever erected in the county, is 80 feet long not including the approaches which have not been built yet, and is of the Pratt truss patent. The authorities will examine it in a few days when it will be formerly turned over to the county.[6]

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[4] *Brenham Banner*, 27 November, 1890. The contract card maintained by the bridge company indicates that the contract was for $2,790. The discrepancy between company records, commissioners' court records, and newspaper accounts of the cost of the bridge may be linked to the fact that Missouri Valley Bridge and Iron was involved in a pooling arrangement with other bridge companies operating in Texas at this time. Under terms of the arrangement, the gross amount paid by a county for a bridge did not reflect the total revenue for the contractor since the wining bidder often had to pay losing bidders a portion of the contract award. See Eli Woodruff Imberman, "The Formative Years of Chicago Bridge & Iron Company" (Ph.D. diss., University of Chicago, 1973), pp. 272-73.

[5] Burleson County, *Commissioners' Court Minutes,* vol. F, p. 24 (11 December 1890).

[6] *Brenham Banner*, 16 April 1891.

It wasn't until May 13, 1891, that the commissioners of the two counties met in joint session to make arrangements for the construction of approaches to the new bridge.[7] But with erection of the metal span completed, the Washington County Commissioners' Court voted on the same day to pay the bridge company $2,565.[8]

**Missouri Valley Bridge and Iron Works**

The subject bridge was just one of many erected in Texas by the Missouri Valley Bridge and Iron Works, which was first organized as the Missouri Valley Bridge Company in 1874. Originally a partnership of E. I. Farnsworth and a man named Reeves, the company was taken over in 1876 by the Insley and Shire Bank. A. J. Tullock, then a resident of Rockford, Illinois, was employed as chief engineer and manager until he purchased a share of the business in 1880, at which time the company name was changed to Missouri Valley Bridge and Iron Works. In 1886, a branch office was opened in Dallas, Texas, with L. S. Leversedge as general Southern agent. In 1888, Tullock bought out his partners and continued to operate the business as a sole proprietorship until his death in 1904, at which time the business was incorporated by some past employees of Tullock and renamed the Missouri Valley Bridge and Iron Company. Under this name the company continued in operation until 1946, when it was acquired by Missouri Valley Steel, Inc.[9]

At the time the subject bridge was erected, the company was mainly engaged in providing bridges for railroads in the West, South, and Southwest. However, as was often the case with bridge companies in the late nineteenth century, Missouri Valley Bridge and Iron also fabricated turn-tables and roof trusses. It was one of the largest and most prolific bridge-building companies of its age, and it developed considerable expertise in construction of difficult subaqueous foundations, such as those for bridges across the Mississippi and Missouri Rivers.

**Description**

The subject bridge is a pin-connected Pratt through truss, a type of span erected in the thousands across streams, creeks and rivers throughout the United States during the late nineteenth and early twentieth centuries. The only truss form to have been executed in wood, iron and steel, the Pratt design was first patented by Thomas Pratt and his father, Caleb, on April

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[7] Ibid., 14 May 1891.

[8] Washington County, *Commissioners' Court Minutes,* vol. B, p. 424 (13 May 1891).

[9] *Leavenworth Times,* 18 March 1982; Victor C. Darnell, *Directory of American Bridge-Building Companies 1840-1900,* Occasional Publication No. 4 (Washington, D.C.: Society For Industrial Archeology, 1984), pp. 17, 18.

14, 1844. In profile the Pratt truss looks much like the Howe truss, a form much favored by the railroads for wood bridges. In function, however, the Pratt is the exact opposite of the Howe truss because its vertical members (except for the hip verticals) act in compression and its diagonals act in tension. Because it utilized a greater amount of iron than the Howe truss, and thus was more expensive to construct, the Pratt did not come into wide use until iron began to replace wood as the preferred structural material for railroad bridges. The Howe truss form was simply not adaptable for use in an all-iron bridge, and thus fell out of favor after the end of the Civil War.[10]

The subject bridge is 78'-9" long and provided a clear roadway width of 11'-9". It is composed of five panels of 15'-9" each, and has a height of 16'-0". The inclined end posts, hip verticals, and main top chord members are composed of two 1/8"-thick channels riveted to by a 1/4"-thick top plate and 1/4" x 1 1/2" lacing beneath. Rods form the top and bottom lateral bracing, single square bars with turnbuckles form the crossed diagonals of the middle panel, and double rectangular bars form the diagonals of the flanking panels. The portal bracing is composed of 1"-wide lattice, riveted to the portal strut and inclined end posts with a gap in the center. The upper lateral struts of the top chord are composed of two angles riveted together. The floor beams are I-beams, and the stringers are made of wood. Double-looped lower chord eyebars are connected by pins and secured by hex nuts to the vertical members, which are bolted to hangers at the bottom of the verticals.

A builder's plate is attached to one portal strut, which reads: "BUILT 1890 BY MO. VALLEY BRIDGE & IRON WORKS, A. J. TULLOCK PROPRIETOR, LEAVENWORTH, KANSAS." Other identifying information may be found on the inclined end posts and struts, which are stamped "CARNEGIE," indicating that the metal was rolled by either the Carnegie-Kloman Company of Pittsburgh, Pennsylvania, or by Carnegie Steel Corporation of Pittsburgh. Two metal pipe rails, which may or may not have been part of the original structure, are U-bolted to channels rising part way up, and attached to, the vertical members.

The most significant aspect of the subject bridge, other than the very real possibility that it is an iron, rather than a steel bridge, is the fact that it is pin-connected. Long after British bridge builders began to use riveted connections, American bridge companies continued to rely on pin connections due to the speed with which a pin-connected bridge could be erected. Although certain portions of the bridge could be riveted together in the shop and then pin-connected on site, it wasn't until the development of reliable field-riveting equipment in the twentieth century that American bridge builders were able to abandon pin connections altogether.

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[10] David Plowden, *Bridges: The Spans of North America* (New York: W. W. Norton and Company, 1974), pp. 40, 65.

About the time the subject bridge was erected, the pin connection methodology had reached its practical limits, but the portable pneumatic riveter was not yet available.[11]

**Relocations**

The bridge served the residents of Washington and Burleson County well at its original location until about 1926, at which time increased traffic on the old Brenham-Caldwell Road, long since dedicated as State Route 36, required that the Pratt truss be replaced by a two-lane bridge. The subject bridge was then moved and re-erected over Tommelson Creek on Cedar Hill Road (County Route 241), a minor two-lane unpaved road providing public access to farms in a predominately agricultural area. For many years the bridge provided a safe, albeit somewhat narrow, crossing of Tommelson Creek for school buses, farm equipment, and personal vehicles accessing rural homes until deterioration of the structural members and complaints from area farmers, who found the bridge too narrow for modern agricultural equipment, forced its replacement in 1994.[12]

In an attempt to preserve the historical integrity of the Tommelson Creek Bridge, the Texas Department of Transportation sought a new site for the span that would allow for re-erection in its original condition; i.e., without removing or altering any of the original structural members. Although the City of Brenham initially refused the bridge due to concerns over liability, after several attempts to relocate the structure to other locations proved unsuccessful the city reconsidered its earlier position and agreed to accept the bridge for use by pedestrians in a public park. A crew from Yoakum House Movers lifted the truss off of its foundations in November 1994, placed it on an beam trailer, and parked it in a nearby field over the winter. On April 10, 1995, the bridge was moved approximately eight miles to its new home in Brenham in about five hours.[13]

**Conclusion**

Although a common span type at the time it was originally erected, the subject bridge is now a rare artifact of late nineteenth century bridge technology. As an example of the once

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[11] David Weitzman, *Traces of the Past: A Field Guide to Industrial Archeology* (New York: Charles Scribner's Sons, 1980), pp. 79, 80.

[12] See "Environmental Assessment, Tommelson Creek, County Road 241, Washington County," 25 June 1993 (Tommelson Creek Bridge vertical file, Texas Department of Transportation, Environmental Affairs Division, Austin, Texas); *Brenham Banner-Press,* 18, 29 November 1994.

[13] *Brenham Banner-Press,* 18, 29 November 1994; 11, 13 April 1995.

commonplace work of the very prolific Missouri Valley Bridge and Iron Works, it is also a physical manifestation of the products and business practices of a bygone age. As such, it functions in its present location across Higgins Creek in Brenham not only as a connection between two parts of Henderson Park, but also as a connection to the state's, and the nation's, industrial past.

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**APPENDIX: Sketch Plan and Elevation, Yegua Creek Bridge**